UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,480	10/22/2002	Eric J. Hansen	71189-1444	5668

20915 7590 10/31/2005

MCGARRY BAIR PC
171 MONROE AVENUE, N.W.
SUITE 600
GRAND RAPIDS, MI 49503

EXAMINER	
CARRILLO, BIBI SHARIDAN	
ART UNIT	**PAPER NUMBER**
1746	

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,480	HANSEN ET AL.	
	Examiner	Art Unit	
	Sharidan Carrillo	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58 and 64-68* is/are pending in the application.

4a) Of the above claim(s) *30-58* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29 and 64-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-58 and 64-68* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-29 and 64-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite because it is unclear whether the chemical compound or combination of chemical compounds are the same or different from the cleaning solution recited in claim 1. Claim 8 is indefinite because it is unclear whether "another" refers to a) another solid phase or b) another phase. Claims 9-10 and 26-27 are indefinite because it is unclear whether the "reagents" is the same or different from the cleaning solution recited in claim 1. Claims 11-12, 17-18 are indefinite because it is unclear what one of ordinary skill in the art would consider as a "mild acid". Claims 13 and 17 are indefinite because "the solution tank" lacks positive antecedent basis. Claims 14-16 are indefinite because of their dependency. Claim 19 is indefinite because "the weak acid" and "weak base" lacks positive antecedent basis. Claims 64 and 66 are indefinite because it is unclear what is meant by a "common cleaning tool". Claims 65 and 66 are indefinite because they are dependent on cancelled claims 60 and 61. Claim 67 is indefinite because it is not further limiting. Claim 1 recites recovering the cleaning solution from the surface which would require collecting the cleaning solution. Claim 68 requires collecting the recovered soiled cleaning solution.

Claim 68 is not further limiting because claim 1 requires the cleaning solution to be collected in order to recover the cleaning solution.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 8-9, 24-25, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741).

Pieroni et al. teach a hand-held scrubbing device for cleaning a surface. In the Embodiment of Fig. 3, Pieroni teaches a heating element 62 which can be a non-electrical heating element, such as a chemical heating element impregnated in the scrubbing surface which employs a chemical which creates heat through an exothermic reaction when contacted with water.

Pieroni fails to teach recovering soiled cleaning solution from the surface. It would have been obvious to a person of ordinary skill in the art to remove the soiled cleaning solution from the surface for purposes of removing contaminants thereon. In reference to claim 2, refer to paragraph 45. In reference to claim 3, one would reasonably expect a phase change to occur since element 62 of Pieroni must be a solid which reacts with the water in order to generate an exothermic reaction. In view of the indefiniteness of claim 8, the limitations are met by Pieroni. In reference to claim 9, Pieroni teaches contacting the chemical 62 with water to produce an exothermic reaction. In reference to claims 24-25 and 28-29, Pieroni teaches transferring the heat directly to the cleaning solution as a result of the chemical reacting with water and transferring the heat indirectly to the cleaning solution as result of heating the scrubbing element which contacts the cleaning solution.

7. Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741) in view of Pace et al. (US2002/0040503).

Pieroni et al. teach the invention substantially as claimed with the exception of an exothermic reaction resulting from acid/base reactions. Pace teaches a process for cleaning a substrate by contacting the substrate with first and

second compositions, wherein upon contact of said two compositions, heat is generated and the cleaning performance is improved. In paragraphs 57-59, Pace teaches heat generation by reacting an acid with a base. The reagents include organic and inorganic acids and bases. It would have been obvious to a person of ordinary skill in the art to have modified the chemical of Pieroni et al. to include acid/base reactions, as taught by Pace et al., for purposes of generating an exothermic reaction to form a heated fluid, thereby enhancing the cleaning performance of the substrate.

In reference to claims 11, and 17-20, the limitations are met since Pace et al. teach the same acids and bases as the claimed invention. In reference to claims 21-23, refer to paragraphs 58-59 of Pace.

In reference to claims 12-13, Pieroni in view of Pace fails to teach stearic acid. However, it would have been within the level of the skilled artisan to modify the modified method of Pieroni to include the stearic acid, since stearic acid is an organic acid and Pace teaches using organic acids to form an exothermic reaction. In reference to claims 14-16, Pieroni in view of Pace fails to teach triethanolamine. However, it would have been within the level of the skilled artisan to modify the modified method of Pieroni to include triethanolamine, since triethanolamine in an organic base and Pace teaches using organic bases such as alkylamines to form an exothermic reaction.

8. Claims 64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieroni et al. (US2002/0112741) in view of Sham (5341541).

Pieroni et al. teaches heating and applying the solution to the surface to be

cleaned. Pieroni fails to teach recovery of the cleaning solution using suction. Sham teaches a portable cleaning apparatus for heating the cleaning solution prior to the step of dispensing the cleaning solution unto the surface to be cleaned. Sham further teaches a suction nozzle for recovery of the fluid into the recovery tank (Abstract). The suction nozzle dries the surface by removing the applied solution, as well as the dirt and debris from the surface being cleaned and carries it to the recovery chamber (col. 4, lines 45-50). It would have been obvious to a person of ordinary skill in the art to modify the method of Pieroni to include recovering the cleaning solution by suction, as taught by Sham, for purposes of drying the surface by removing the cleaning solution, dirt and debris from the surface being cleaned.

Allowable Subject Matter

9. Claims 4-7 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the limitations as recited in claims 4-7 and 26-27.

Response to Arguments

11. Applicant argues that Pieroni fails to teach first heating the cleaning solution with an exothermic reaction then applying the heated cleaning solution to the surface to be cleaned. Applicant's arguments are unpersuasive since Pieroni teaches a non-electrical heating element (i.e. chemical 62) which is impregnated in the scrubbing surface 28.

The heating element creates heat through an exothermic reaction when contacted with water to provide a scrubbing surface 28 with a temperature of about 35-50 degrees centigrade. In Fig. 3, element 56 is the water connection. Element 50 comprises water and the cleaning composition. Therefore, an exothermic reaction occurs between the heating element and the water in order to heat the scrubbing surface prior to contacting the object to be cleaned.

12. Applicant's argues no motivation to combine the teachings of Pieroni with Dorney, citing that Dorney cannot be incorporated into the Pieroni reference. Applicant argues that there is no suggestion as to how the Dorney teaching could be incorporated into the scrubbing head of Pieroni. Based on applicant's arguments, the rejection has been withdrawn.

13. Applicant argues no motivation to combine Pieroni with Pace because Pace applies chemicals to the surface to be cleaned separately to conduct the exothermic reaction in-situ. Applicant's arguments are unpersuasive. The examiner agrees that Pace teaches applying chemical to the surface and forming an exothermic reaction in-situ. However, Pace is relied upon for the general teaching of forming an exothermic reaction by contacting an acid with a base. An exothermic reaction is formed when an acid and base are contacted, irregardless of whether the acid contacts the base prior to contacting the surface of the object to be cleaned or whether the acid and base are added to the surface prior to forming an exothermic reaction. The secondary reference of Pace is relied upon to show that exothermic reactions are produced by acid/base reactions.

14. In view of applicant's arguments, the rejection of claims 12-16 as being unpatentable over Pieroni in view of Pace and Wool are withdrawn. Further, Wool et al. teaches away from using the composition on planar surfaces because of volatility of the reaction.

15. Applicant's election with traverse of claims 1-29 in the reply filed on 3/28/2005 is acknowledged. The traversal is on the ground(s) that the process could not be carried out with a substantially different apparatus. This is not found persuasive because of the reasons set forth in the Office Action of 3/16/2005.

The requirement is still deemed proper and is therefore made FINAL.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo
Primary Examiner
Art Unit 1746

SHARIDAN CARRILLO
PRIMARY EXAMINER